#15/Appeal Brief

Attorney Docket: 225/48731
PATENT

Hawkins 5/29/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	OTMAR BITSCHE ET AL.		
Serial No.:	09/540,201	Group Art Unit:	2834
Filed:	MARCH 31, 2000	Examiner:	THANH LAM
Title:	RELUCTANCE MOTOR WITH AT LEAST TWO SALIENT POLES EACH PROVIDED WITH AN EXCITER WINDING, AND METHOD FOR MANUFACTURING THE STATOR OF SUCH....		

APPEAL BRIEF

Commissioner for Patents
Washington, D.C. 20231

Sir:

Appellants hereby appeal from the decision of the Examiner in the final Office Action of December 21, 2001, in which claims 1-10 were rejected.

(I) REAL PARTY IN INTEREST

The real party in interest is **DaimlerChrysler AG, Epplestrasse 225, D-70567 Sttutgart, Germany**.

(II) RELATED APPEALS IN INTERFERENCES

There are no other appeals and interferences known to Appellants, Appellants' legal representative or Assignee which will directly effect or be directly effected by or have a bearing on the Board's decision on the pending appeal.

(III) STATUS OF CLAIMS

Claims 1-10 have been finally rejected under 35 U.S.C. 102 as anticipated by the reference to Carpenter, U.S. Patent No. 2,907,904.

(IV) STATUS OF AMENDMENTS

Subsequent to the final rejection, a response which did not contain any claim changes was filed on January 22, 2002. An Advisory Action, dated February 22, 2002 indicated that the January 22. 2002 response was considered, but did not place the application in condition for allowance.

(V) SUMMARY OF THE INVENTION

The present invention is defined by Independent claims 1, 8 and 9 and is designed to improve upon prior art reluctance motors which generate radial forces against the coil during current flow. Appellants' solution involves a spring bias providing a radially outward force and positioned with its outer side against the sides which face the rotor of the exciter coil surrounding the stator poles or the winding bodies. The bias spring force is directed radially outward against the exciter coils and the coils are held firmly between the biasing means and the yoke of the stator.

As expressed in independent claim 1, a rotor 1 and at least two salient stator poles 14-19 having respective exciter coils 20-25 surrounding the stator poles and one end of the exciter coils facing the rotor 1. A spring biasing device 27 provides the radially outward force on the end of the exciter coil facing the

rotor in a direction away from the rotor 1. This is described at page 6, line 8 through page 7.

Independent claim 9 features the arrangement of Fig. 3 having one biasing means 28, 29 against an end of each of the exciter coils which faces the rotor in order to apply the radial force to the exciter coils in a direction away from the rotor. Claim 9 specifies a motor and at least two salient stator poles illustrated as 14 and 18 in Fig. 3 and the respective exciter coils are shown at 21 and 24 in Fig. 3. The biasing means are illustrated 28, 29 and the description is contained at page 8, line 19 through page 9, line 8.

Independent claim 8 recites the method of manufacturing a stator of a motor involving the application of at least one snap ring to the ends of the exciter coils 20-25 facing away from the yoke 13 of the stator 4 and subsequently applying casting resin into the exciter coils and the spaces between the exciter coils before the find step of curing the casting resins. The method of claim 8 is described at page 9, line 15 through page 10, line 21.

(VI) ISSUES

The issues to be decided by the board is whether Independent claims 1, 8 and 9 and the dependent claims 2-7 and 10 define structure and provide a method which is anticipated by U.S. Patent No. 2,907,904 to Carpenter.

(VII) GROUPING OF THE CLAIMS

Claims 1-10 do not stand or fall together.

VIII) ARGUMENT

Appellants traverse the rejection of claims 1-10 under 35 U.S.C. 102 based on the reference to Carpenter, U.S. Patent No. 2,907,904 on the grounds that the final Patent Office Action erroneously interpreted both the nature of the claims and the reference to Carpenter. More particularly, the final Office Action indicates that the reference to Carpenter has a "spring biasing device (24) contacting said each of each said exciter coils facing said rotor wherein said spring biasing device provides a radially outward force on the ends of said exciter coils facing said rotor in a direction away from said rotor." With respect to independent claim 9, the Office Action indicates that the reference to Carpenter has at least one biasing means positioned against an end of each of said exciter coils which faces said motor to apply radial force to said exciter coils in the direction away from said rotor.

Concerning independent claim 8, the rejection indicates that the "method therein is inherent given the apparatus of Carpenter."

Appellants submit that the reference to Carpenter does not have a "spring bias device." Instead Carpenter uses wedges 24 which do not have or exert a "spring basis." The rejection relies on lines 8-14 of column 3 of Carpenter for a showing of such "spring bias." Appellants submit that lines 8-14 of column 3 merely indicate that these wedges 24 distribute the flux more evenly and hold the capacity winding 17 in place. A holding function is not a spring bias function. A piece of wood blocking a door is a wedge but it does not have a spring bias force. The normal meaning of "spring" and "bias" is well known in the art and anything that has a "spring bias" forces an object back into a different

position or intends to force an object into a different position as a result of the spring. Appellants also traverse the indication given in the "Response to Arguments" at item 1 of page 2 of the Final Rejection, wherein it is indicated that the term "device" is "normally meaning a combination of the mechanical or electrical elements to be connected together to become a device to serve its purpose."

The rejection then concludes that "the combination of wedges (24) as taught by Carpenter is considered a spring bias device and the device inherently provides a radially outward force on the ends of the exciter coils (17) facing the rotor in a direction away from the rotor in order to hold coils in place or prevent the coils from slipping out of the slots."

As indicated previously, Carpenter has no spring bias device and the wedges cannot serve to provide either a bias or a spring in the normal meaning to one of ordinary skill in the art.

There is no requirement that a device necessarily constitutes "a combination of mechanical or electrical elements." U.S. Patent No. 5,584,672 claims a "spring biasing device" in the independent claim 1 and recites in claim 15 that the spring biasing device is a spring. Therefore, there is no indication that the claiming of a spring biasing device is normally "a combination of the mechanical or electrical elements to be connect together to become a device to serve its purpose." In any event, the reference to Carpenter does not have a spring bias device under any reasonable interpretation.

The purpose of the wedges in Carpenter is to retain and to provide flux. Therefore, the wedges are made of magnetic material and one skilled in the art would have to remove the function of the magnetic material from Carpenter and substitute a spring biasing device which would no longer have the magnetic function and would no longer be the device disclosed by Carpenter.

Independent claim 1 specifically requires the spring biasing device to contact each end of each of said exciter coils facing the rotor so that the spring biasing device provides a radially outward force on the ends of said exciter coils facing said rotor in a direction away from said rotor. Independent claim 9 also requires that the reluctance motor include "at least one biasing means positioned against the end of each of said exciter coils which faces said rotor to apply a radial force to said exciter coils in a direction away from said rotor." Independent method claim 8 requires the application of at least one snap ring to the ends of the exciter coils facing away from a yoke of the stator and applying a casting resin to the exciter coils and the spaces between the exciter coil. Each of independent claims 1, 9 and 8 have either structure or method steps which are not anticipated by the reference to Carpenter for all of the reasons discussed above.

Claims 1-10 do not stand or fall together because claims 2-7 retain separate patentability over independent claim 1. Claim 2 recites a snap ring which is separately patentable from a "spring biasing device" and claim 3 recites that the exciter coil are gripped between the spring biasing device and a yoke of the stator which is also separately patentable. Claim 4 recites that the stator poles have a groove in the center of the end facing the rotor which groove receive

the spring biasing device which is also separately patentable from independent claim 1. Claim 5 limits claim 2 by indicating that the snap rings contact the ends of the exciter coils facing the rotor in an axial direction of the yoke of the stator at each end of the stator poles which is separately patentable from claim 2. Claims 6 and 7 limit the positioning of the snap ring and the construction of the snappering which are separately patentable features.

Dependent claim 10 limits independent claim 9 by reciting that the biasing means is a snap ring and is separately patentable from claim 9 for same reason that claim 2 is separately patentable from independent claim 1.

Therefore, it is submitted that each one of the independent claims 1, 8 and 9 contain features or limitations which are not anticipated by the reference to Carpenter and therefore, Appellants submit that this application is improperly rejected under 35 U.S.C. 102 and the decision of the Examiner should be REVERSED.

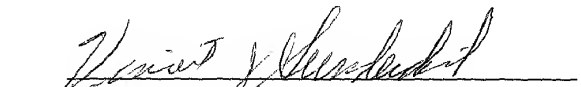
An Appendix is attached hereto containing a copy of the claims involved in the Appeal.

CONCLUSION

This Appeal Brief is accompanied by a check in the amount of $320.00 in payment of the required appeal fee. This amount is believed to be correct, however, the Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account No. 05-1323 (Docket #225/48731). A triplicate copy of this Appeal Brief is attached.

Respectfully submitted,

Date: **May 21, 2002**



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APPENDIX

1. A reluctance motor comprising:

a rotor and at least two salient stator poles wherein each of said stator poles has an exciter coil surrounding respective stator poles with one end of each of said exciter coils facing said rotor;

a spring biasing device contacting said end of each of said exciter coils facing said rotor wherein said spring biasing device provides a radially outward force on the ends of said exciter coils facing said rotor in a direction away from said rotor.

2. The reluctance motor according to claim 1, wherein said spring biasing device is at least one snap ring.

3. The reluctance motor according to claim 1, wherein said exciter coils are gripped between the spring biasing device and a yoke of the stator.

4. The reluctance motor according to claim 1, wherein each of said stator poles has a groove in at proximately the center of the end facing the rotor wherein said groove receives said spring biasing device.

5. The reluctance motor according to claim 2, wherein in the axial direction of a yoke of the stator, at each end of the stator poles, an outwardly springing one of said at least one snap springs contacts the ends of the exciter coils facing the rotor.

6. The reluctance motor according to claim 2, wherein each of said at least one snap ring is disposed of one flat side adjacent said stator poles.

7. The reluctance motor according to claim 2, wherein each of said at least one snap ring is made of spring steel.

8. A method for the manufacture of a stator of a reluctance motor having at least two salient stator poles each provided with an exciter winding, said method comprising the acts of:

assembling sheet iron laminations of the stator;

disposing exciter windings on the assembled sheet iron laminations;

applying at least one snap ring to ends of exciter coils facing away from a yoke of the stator;

applying casting resin to the exciter coils and interstices between the exciter coils; and

curing the casting resin.

9. A reluctance motor having a motor and at least two salient stator poles with each of said stator poles being provided with an exciter coil, said reluctance motor further comprising at least one biasing mean positioned against an end of each of said exciter coils which faces said rotor to apply a radial force to said exciter coils in a direction away from said rotor.

10. A reluctance motor according to claim 9, wherein said biasing means is a snap ring.